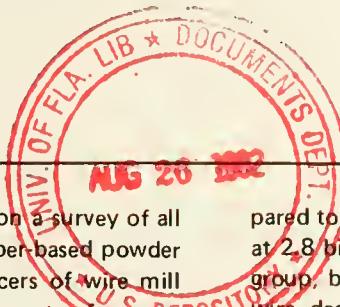




U.S. Department of Commerce
BUREAU OF THE CENSUS
BUREAU OF INDUSTRIAL ECONOMICS

Copper Controlled Materials



SUMMARY FOR 1981

ITA-9008(81)-5
Issued July 1982

The statistics in this publication are based on a survey of all known producers of brass mill products, copper-based powder products, and a 95 percent sample of producers of wire mill products. The figures represent total U.S. shipments of copper-base mill and foundry products.

Total shipments of copper-base mill and foundry products totaled 6.0 billion pounds in 1981, a 3-percent increase com-

pared to 5.8 billion pounds in 1980. Copper wire mill shipments, at 2.8 billion pounds, were up 2 percent from 1980. Within this group, bare wire increased 12 percent; insulated communication wire decreased 5 percent; and other insulated wire increased 4 percent.

A description of the survey methodology and related information appears on page 5.

Table 1. SUMMARY OF SHIPMENTS OF COPPER-BASE MILL AND FOUNDRY PRODUCTS

(Millions of pounds - metal weight)

Quarter and year	Total	Brass mill products		Copper wire mill products ¹			Brass and bronze foundry products ³	Copper-base powder mill product
		Alloyed	Unalloyed	Bare wire ²	Insulated communication wire	Other insulated wire		
1981								
1981, total.....	5,987	1,695	927	328	755	1,764	471	47
Fourth quarter.....	1,323	350	194	77	179	403	109	11
Third quarter.....	1,481	437	215	81	188	433	116	11
Second quarter.....	1,592	462	254	88	192	458	125	13
First quarter.....	1,591	446	264	82	196	470	121	12
1980								
1980, total.....	5,786	1,508	959	293	797	1,693	489	47
Fourth quarter.....	1,361	372	239	67	154	401	115	13
Third quarter.....	1,341	325	212	61	221	412	102	8
Second quarter.....	1,411	362	232	79	203	398	126	11
First quarter.....	1,673	449	276	86	219	482	146	15
1979, total.....	6,707	1,869	1,107	236	846	1,966	617	66
1978, total.....	6,266	1,750	962	238	806	1,867	580	63

Note: Detail may not add to totals due to independent rounding.

¹Represents copper content weight, rather than metal weight.

²Represents uninsulated, bare tinned, and/or alloy coated wire.

³Source: Bureau of the Census, Current Industrial Reports Series M33E, Nonferrous Castings.

Address inquiries concerning these figures to the U.S. Department of Commerce, Bureau of Industrial Economics, Washington, D.C. 20230, or to the Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Jim Oliver, (301) 763-5440.

For sale by Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, D.C. 20233, or any U.S. Department of Commerce district office. Postage stamps not acceptable; currency submitted at sender's risk. Remittances from foreign countries must be by international money order or by a draft on a U.S. bank. Price, 25 cents per copy, \$1.25 per year.

Table 2. SHIPMENTS OF COPPER-BASE MILL AND FOUNDRY PRODUCTS: 1981 AND 1980

(Millions of pounds--metal weight)

Type of product	Total	First quarter	Second quarter	Third quarter	Fourth quarter
1981					
Total.....	5,987	1,591	1,592	1,481	1,323
Brass mill products ¹	2,622	710	716	652	544
Copper-base alloy:					
Sheet and strip ²	792	204	218	196	174
Rod, bar, and wire.....	765	204	206	208	147
Tube and pipe.....	138	38	38	33	29
Unalloyed copper:					
Sheet and strip.....	206	60	54	46	46
Rod, bar, and wire ³	123	31	36	30	26
Tube and pipe.....	598	173	164	139	122
Copper wire mill products ¹ ⁴	2,847	748	738	702	659
Bare wire ⁵	328	82	88	81	77
Insulated communication wire.....	755	196	192	188	179
Other insulated wire.....	1,764	470	458	433	403
Brass and bronze foundry products ⁶ ⁷	471	121	125	116	109
Copper-base powder mill products ¹	47	12	13	11	11
Copper-base alloy:					
Granular.....	7	1	2	2	2
Flake.....	(Z)	(Z)	(Z)	(Z)	(Z)
Unalloyed copper:					
Granular.....	36	10	10	8	8
Flake.....	4	1	1	1	1
1980					
Total.....	5,786	1,673	1,411	1,341	1,361
Brass mill products ¹	2,467	725	594	537	611
Copper-base alloy:					
Sheet and strip ²	680	204	169	133	174
Rod, bar, and wire.....	708	211	164	165	168
Tube and pipe.....	120	34	29	27	30
Unalloyed copper:					
Sheet and strip.....	202	62	53	44	43
Rod, bar, and wire ³	126	31	37	28	30
Tube and pipe.....	631	183	142	140	166
Copper wire mill products ¹ ⁴	2,783	787	680	694	622
Bare wire ⁵	293	86	79	61	67
Insulated communication wire.....	797	219	203	221	154
Other insulated wire.....	1,693	482	398	412	401
Brass and bronze foundry products ⁶ ⁷	489	146	126	102	115
Copper-base powder mill products ¹	47	15	11	8	13
Copper-base alloy:					
Granular.....	9	3	2	2	2
Flake.....	1	1	(Z)	(Z)	(Z)
Unalloyed copper:					
Granular.....	33	10	8	5	10
Flake.....	4	1	1	1	1

Nota: Detail may not add to totals due to independent rounding. Monthly shipments data for brass mills and for copper wire mills of primary companies are available in Current Industrial Reports Series M33K, Inventories of Brass and Copper Wire Mill Shapes.

(Z) Less than 500,000 pounds.

¹Shipments by brass mills, copper wire mills, and copper-base powder mills include all controlled materials orders shipped by the respondent for his own account, by other copper controlled material producers for the respondent's account, or by the responding company under toll arrangements for the account of controlled materials consumers.

²Military ammunition cups and discs are included on a net-weight basis, i.e., excluding the weight of the webbing scrap generated in the cupping and discing operation.

³Does not include electrical wire.

⁴Reported in copper content weight rather than metal weight.

⁵Wire, uninsulated, bare, tinned, and/or alloy coated.

⁶Shipments by brass and bronze foundries include both shipments for sale (to the trade) and shipments for own use. Shipments for own use represent copper and copper-base alloy castings for use by the reporting company or an affiliate, subsidiary, or parent company. Also includes castings produced and consumed at the same location in the production of finished products.

⁷Source: Bureau of the Census, Current Industrial Reports Series M33E, Nonferrous Castings.

Table 3. COPPER-BASE MILL AND FOUNDRY PRODUCTS, SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION: 1981 AND 1980

(Quantity in millions of pounds; value in thousands of dollars)

Product ¹	Manufacturers' shipments ^a	Exports of domestic merchandise ^{1, 2}			Percent, exports to manufacturers' shipments (quantity)	Imports for consumption ^{1, 4}		Apparent consumption ⁶	Percent, imports to apparent consumption (quantity)
		Quantity	Value at port	Estimated producers' value ³		Quantity	Value ⁵		
1981									
Total ⁷	2,997	127	265,802	258,771	4	355	423,604	3,225	11
Brass mill products:									
Copper-base alloy:									
Sheet and strip.....	792	23	54,333	52,871	3	193	193,871	1,712	11
Rod, bar, and wire.....	765	15	25,193	24,515	2	52	81,131	171	30
Tube and pipe.....	138	19	56,147	54,637	14				
Unalloyed copper:									
Sheet and strip.....	206	3	7,042	6,853	1	48	66,117	341	14
Rod, bar, and wire.....	123	33	37,461	36,453	27	34	46,097	614	6
Tube and pipe.....	598	18	33,035	32,146	3				
Copper wire mill products, bare wire.....	328	13	48,152	46,857	4	24	30,517	339	7
Copper-base powder mill products.....	47	3	4,439	4,439	6	4	5,871	48	8
Copper-base alloy:									
Granular.....	7								
Flake.....	(Z)								
Unalloyed copper:									
Granular.....	36	3	4,439	4,439	6	4	5,871	48	8
Flake.....	4								
1980									
Total ⁷	2,807	221	336,173	327,302	8	220	308,308	2,806	8
Brass mill products:									
Copper-base alloy:									
Sheet and strip.....	680	17	48,707	47,397	2	88	109,767	1,439	10
Rod, bar, and wire.....	708	20	25,866	25,170	3	44	72,137	133	4
Tube and pipe.....	120	31	57,120	55,583	26				28
Unalloyed copper:									
Sheet and strip.....	202	4	6,708	6,528	2	47	61,451	281	11
Rod, bar, and wire.....	126	90	94,760	92,211	71	23	35,356	615	19
Tube and pipe.....	631	39	58,284	56,716	6				6
Copper wire mill products, bare wire.....	293	16	38,331	37,300	5	16	24,705	293	(NA)
Copper-base powder mill products.....	47	4	6,397	6,397	9	2	4,892	45	3
Copper-base alloy:									
Granular.....	9								
Flake.....	1								
Unalloyed copper:									
Granular.....	33	4	6,397	6,397	9	2	4,892	45	3
Flake.....	4								

(NA) Not available.

(Z) Less than half the stated unit of measure.

¹Comparison of domestic manufacturers' shipment, export, and import codes for copper-base mill and foundry products is shown in table 4.²Source: Bureau of the Census report FT-410, U.S. Exports, Commodity by Country.³These values were derived by use of adjustment factors to exclude freight, insurance, and other charges incurred in moving goods to the port of export. This adjustment is made to convert the values to an approximation of the producers' value of exported goods. Current adjustment factors (0.9731 for industry group 335 relating to brass mill and copper wire mill products and 1.0 for industry group 339 relating to copper-base powder mill products) are based on data for 1980 which are published in Origin of Exports of Manufactured Products, M80(AS)-6, appendix B.⁴Source: Bureau of the Census report IM 145-X, U.S. Imports for Consumption and General Imports.⁵Represents the c.i.f. (cost, insurance, and freight) value at the first port of entry in the United States plus U.S. import duties.⁶Apparent consumption is derived by subtracting exports from the total of net shipments plus imports.⁷This total does not include either insulated wire and cable or brass and bronze foundry products.

Table 4. COMPARISON OF DOMESTIC MANUFACTURERS' SHIPMENTS, EXPORT, AND IMPORT CODES FOR COPPER-BASE MILL PRODUCTS: 1981

Product	Exports of domestic merchandise (Schedule B)	Imports for consumption (TSUSA)
Copper mill products:		
Copper-base alloy:		
Sheet, strip, and plate.....	612.3360, 612.3370, 612.3380	{ 612.3400, 612.3500, 612.3600, 612.3800, 612.3920, 612.3940,
Rod, bar, and wire ¹	612.4620	612.3960, 612.3980, 612.4000, 612.4100, 612.4300, 612.4410,
Tube and pipe.....	613.0520, 613.0530	612.4430, 612.4510, 612.4520, 612.5200, 612.6100, 612.6200,
Unalloyed copper:		612.6300, 612.6410, 612.6420, 612.8100, 612.8200
Sheet, strip, and plate.....	612.3320	613.0600, 613.0800, 613.1000, 613.1100, 613.1200
Rod, bar, and wire ¹	612.4640	
Tube and pipe.....	613.0540, 613.0550	612.3000, 612.3120, 612.3140, 612.3160, 612.3200,
Copper wire mill products, bare wire.....	612.7420, 612.7440	612.5000, 612.6000, 612.8000
Copper-base powder mill products:		613.0200, 613.0300, 613.0400
Copper-base alloy:		
Granular.....		
Flake.....	612.5400	612.5500, 612.5600
Unalloyed copper:		
Granular.....		
Flake.....		

¹The import and export codes for this line do not include wire.

DESCRIPTION OF SURVEY

Scope of Survey—This survey covers producers of selected copper controlled materials, i.e., copper-base mill and foundry products.

Survey Methodology—The statistics in this publication on copper-base mill products were collected by mail on Bureau of the Census and International Trade Administration Form ITA-9008, Copper Controlled Materials. The survey panel is based on a list of all known producers of copper-base mill shapes and powder products supplied by the Bureau of Industrial Economics (BIE), Department of Commerce. It also includes manufacturers who produce about 95 percent of wire mill products based on studies made by BIE. The data for wire mill products include estimates for small producers in order to represent 100 percent coverage. Approximately 190 companies are included in the mail panel.

Also included in this publication are estimates for foundry products, which are derived from Current Industrial Reports Series M33E, Nonferrous Castings. A description of the methodology for the survey from which these data are derived can be found in the January 1982 publication for this series.

Reliability of Data—Survey error may result from several sources: (1) inability to obtain information about all cases in the survey, (2) response errors, (3) definitional difficulties, (4) differences in the interpretation of questions (5) mistakes in recording or coding the data obtained, and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to non-sampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is due to imputing data for nonrespondents, for late reporters, and for data which fail logic edits. Missing figures are imputed based on quarter-to-quarter movements shown by reporting firms. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse because the actual quarterly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

Rewvisions to Previous Period Data—Quarterly data and data for prior years may be revised as the result of corrected figures from respondents or other corrections. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

EXPLANATION OF TERMS

Shipments—Shipments include all copper-base mill and foundry product controlled materials. Both products produced by the company which owns the materials and products produced for others under toll agreements are included.

Shipments by brass and bronze foundries include both shipments for sale (to the trade and shipments (production) for own use. Shipments for own use represent copper and copper-base alloy castings for use by the reporting company or by a subsidiary, parent, or other affiliated company. Also included are castings produced and consumed at the same location in the production of finished products.

Copper-Base Mill Products—Products produced by rolling, drawing, and extruding copper, brass, bronze, and other copper-base alloy basic shapes. Drawing and insulating of copper wire are also included. Intermediate shapes of powder mill products are included. All other intermediate shapes are excluded. An intermediate shape is any product which has been rolled, drawn, or extruded from refined copper or brass, and which will be rereeled, redrawn, insulated, or further processed into finished brass mill or copper wire mill products (or into another intermediate shape) by other producers of intermediate or finished shapes of copper controlled materials.

Controlled Materials—Steel, copper, aluminum, and nickel alloys, either domestic or imported, in the forms and shapes specified in Defense Materials Systems, regulation 1, as revised, whether new, remelted, rereeled, or redrawn.

Unfilled Order for Sale—Includes unfilled order for sale to the trade for controlled materials that have been accepted or acknowledged and which have not been shipped.

COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The Standard Industrial Classification (SIC) system used for domestic output and the statistical export and import commodity classifications were developed independently and are based on somewhat differing systems of classification. This results in considerable difficulty in comparing the three types of data for many commodity areas. The domestic output classification is based on type of industry; on the other hand, the export and import classification system is more materials oriented. Aside from the differences in the basic commodity classifications, there are additional problems involving import data, since there are a substantial number of imported commodities which are not produced in the United States or which are produced only in very small quantities and which, therefore, have no comparable domestic output classification. The relationships shown in this report should be considered only as approximations, since, in addition to the problems mentioned above, there are also the following problems affecting the comparability of the three sets of data.

Valuation—There are different methods of valuation for the three types of data:

Domestic Output—Valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, exclusive of freight charges and excise taxes.

Exports—Valued at the point of exportation. It includes the selling price, or cost if not sold, and inland freight, insurance, and other charges to the export point.

Estimated producers' values of exports have also been developed. These values more closely approximate the values reported for domestic output because they exclude freight, insurance, and other charges applied from the producing plant to the export point.

Imports—Valued at the first port of entry in the United States. It includes c.i.f. (cost, insurance, and freight), duty, and other charges to the import point.

Duplication in Quantity and Value of Output—Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of data for such commodities may contain a certain amount of duplication. Thus, percentages of exports to output or imports to apparent consumption (output plus imports minus exports) at four-digit or broader levels may be understated. Where duplication is known to be substantial, the output data are appropriately noted in the table.

Estimated Low-Valued Export and Import Transactions—The import statistics include estimated value data for shipments valued under \$251, based on a 1-percent sample. Effective with the statistics for March 1979, the lower limit of the value ranges for estimating data for low-value export shipments has been raised from \$251 to \$501. For countries other than Canada, effective with the March 1979 statistics, data for shipments valued \$501-\$999 (formerly \$251-\$999) are estimated based on a 50-percent sample of such shipments. As in the past, these estimates are combined with data for shipments valued \$1,000 and over, which continue to be fully compiled. For Canada, effective with the March 1979 statistics, shipments valued \$501-\$1,999 (\$251-\$1,999 prior to March 1979) are estimated, based on a 10-percent sample and are combined with fully compiled data for shipments valued \$2,000 and over. For exports to all countries, data for shipments valued under \$501 (under \$251 prior to March 1979) are also estimated, based on established percentages of individual country totals.

Manufacturers' Shipments, Not Specified by Kind—The value of manufacturers' shipments at the four-digit industry level often includes a small amount which is not distributed among the individual five-digit product classes. Export and import percentages at the more detailed levels might, therefore, be slightly overstated.

Time Lag Between Output and Exports—There will be a lag between the time a commodity is produced or shipped by the

producer and the time it is actually exported, especially when intermediaries (wholesalers, exporters, etc.) are involved. Ordinarily, this type of discrepancy is insignificant in annual figures.

"Direct" vs "Total" Commodity Exports and Imports—Export and import data do not include materials which are incorporated into other more finished products and exported or imported in finished form. Thus, by showing only direct exports and imports, the relation of exports to output and imports to apparent consumption for intermediate products is considerably understated.

Used Commodities—With a few exceptions, used or rebuilt commodities are classified in the same import or export codes as is new merchandise. Percentages are thus overstated to the extent that used or rebuilt products are significant in trade.

Geographic Area of Coverage—Import and export data reflect the movement of merchandise into and out of the U.S. customs territory (the 50 States, the District of Columbia, and Puerto Rico). They do not include movements between the United States and its possessions. Domestic output (shipments) data exclude Puerto Rico and other outlying areas.

HISTORICAL NOTE

Data on copper-controlled materials have been collected by the Bureau of the Census since 1951. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. A list of these libraries may be obtained from the Bureau of the Census regional offices:

Office	Telephone
Atlanta, Georgia	(404) 881-2271
Boston, Massachusetts	(617) 223-2327
Charlotte, North Carolina	(704) 371-6142
Chicago, Illinois	(312) 353-6251
Dallas, Texas	(214) 767-0625
Denver, Colorado	(303) 234-3924
Detroit, Michigan	(313) 226-7742
Kansas City, Kansas	(816) 374-4601
Los Angeles, California	(213) 824-7317
New York, New York	(212) 264-3860
Philadelphia, Pennsylvania	(215) 597-4920
Seattle, Washington	(206) 442-7080

RELATED REPORTS

A quarterly Current Industrial Report is published in this series. The Bureau of the Census also publishes the following related reports:

Series	Frequency	Title
<i>Current Industrial Reports</i>		
M33E	Monthly	<i>Nonferrous Castings</i>

Series	Frequency	Title	Subject Area	Contact	Phone Number
M33K	Monthly	<i>Inventories of Brass and Copper Wire Mill Shapes</i>	Manufacturers' Shipments, Inventories, and Orders	Ruth Runyan	(301) 763-2502
MA-33L	Annual	<i>Insulated Wire and Cable</i>			
<i>Other Industry Reports</i>					
M3-1	Monthly	<i>Manufacturers' Shipments, Inventories, and Orders</i>	Census/ASM	Dale Gordon	(301) 763-7304
(AS)	Annually	<i>Annual Survey of Manufactures (ASM)</i>	To order a Census Bureau publication	Customer Services (DUSD)	(301) 763-4100
(MC)	Quin-quennially	<i>Census of Manufactures</i>	Foreign Trade publication	Juanita Noone	(301) 763-5140
<i>Foreign Trade Reports</i>					
EM-546	Monthly	<i>U.S. Exports—Schedule B—Commodity by Country</i>	Bureau of Industrial Economics	Graylin Presbury	(202) 566-7732
IM-145-X	Monthly	<i>U.S. Imports for Consumption and General Imports</i>			

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone Number
Current Industrial Report ITA-9008	James L. Oliver	(301) 763-5440

ACKNOWLEDGMENTS

This report was prepared in the Industry Division, Bureau of the Census, under the direction of Malcolm Bernhardt, Chief, Current Durables Branch, and Jesse Havard, Chief, Metals Section. Jim Oliver was directly responsible for the review of the data and preparation of the report. Roger Bugenhagen, Chief of the Division, and John R. Wikoff, Assistant Chief for Current Industrial Reports, provided overall direction and coordination to this project.

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